



## 5.4 DECK CLOSURE POUR AND ASSOCIATED REQUIREMENTS

### 5.4.1 GENERAL

This policy addresses deck closure pour and associated requirements for the following bridge superstructure types:

- Cast-in-place (CIP) construction (slabs, box girders, and tee beams)
- Precast (PC) construction with a CIP deck and without longitudinal post-tensioning (PC girders, PC box beams, and PC slabs)
- Steel girder construction with a CIP deck

This policy applies to bridge widenings and stages of bridge construction that are not entirely supported by the existing bridge or by the previous bridge construction stage.

### 5.4.2 DEFINITIONS

*Deck closure pour* – A concrete deck slab placement for the portion of the remaining deck between a bridge widening and the existing bridge or between stages of bridge construction.

*Deck closure pour waiting period* – The minimum required time before placing the deck closure pour, beginning from the last falsework release for CIP construction and from the last deck concrete placement for PC construction.

*Instantaneous deflection* – The maximum calculated deflection of the bridge widening or the new bridge construction stage due to dead load plus any prestressing for CIP construction and due to the weight of the deck for PC and steel girder construction. The deflection is calculated at the time of falsework release for CIP construction and at the time of deck placement for PC and steel girder construction. The calculated deflection must assume no connection to the existing bridge or previously constructed bridge stage.

### 5.4.3 DECK CLOSURE POUR AND ASSOCIATED REQUIREMENTS

For new post-tensioned bridge widenings and between stages of post-tensioned bridge construction, (1) a deck closure pour is always required, and (2) any connection between bent caps, diaphragm abutments, pier walls, and other rigid elements must not be made until at least 60 days after post-tensioning.

For non-post-tensioned bridge widenings and between stages of non-post-tensioned



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bridge construction, a deck closure pour is required if the instantaneous deflection is greater than 0.25 inches, except as follows:

For sliver widenings and stages of construction consisting transversely of a single PC or steel girder, a single PC beam, or a single PC slab, a deck closure pour is not required if all the deck concrete is placed in the entire span prior to final deck concrete consolidation and finishing in that span; and this must be so indicated on the plans.

The deck closure pour width must be greater than or equal to 3 feet. For CIP slab bridges, the deck closure pour thickness must match the adjacent slab thicknesses. For beam-slab bridges, the deck closure pour thickness must be equal to the greater of (1) 8 inches and (2) the maximum deck thickness of the adjacent bays.

When a bridge widening or bridge stage construction is constructed with CIP construction, and any of the following apply:

- A falsework bent is required to split traffic lanes
- The falsework requires the number of traffic lanes to be reduced
- The minimum vertical falsework clearance of 15 feet over public traffic is not provided,

The following note must be placed on the plans:

*“Falsework shall be removed as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework has been released.”*

When the falsework does not pose a significant disruption to public traffic, the following notes must be placed on the plans:

*“Alternative 1: Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework has been released.”*

*“Alternative 2: Falsework shall not be released less than 28 days after the last concrete has been placed. Closure pour shall not be placed sooner than 14 days after the falsework has been released.”*

*“When Alternative 2 is used, camber values are 0.75 times those shown.”*

When the bridge widening or bridge stage construction is constructed with PC construction, the following note must be placed on the plans:

*“Closure pour shall not be placed sooner than 14 days after the adjacent deck pours are complete.”*



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The deck closure pour waiting periods stipulated above may be reduced and so shown on the plans if an appropriate analysis demonstrates sufficient closure pour / closure pour bay deck vertical differential deflection capacity. The camber values shown on the plans must account for the time between placing the last concrete and releasing the falsework.